2020/2021 Milestone Priorities for Maryland's Phase III WIP

		Milestone	Agency	Steps to Achieve MS Goals	Deliverable
The practices identified in this section represent the additional new or revised priority implementation efforts that Maryland proposes to meet Phase III WIP Goals.	Agriculture	Agricultural Drainage Management	MDA	 Add drainage management BMPs to MACS Program Collaborate with Conservation Partners to identify opportunities for implementation. Provide appropriate training for drainage management BMP design & installation. 	4,156 acres managed under Agricultural Drainage Management
		Pasture and Grazing Management	MDA	 Identify opportunities for additional stream exclusion fencing Working with NRCS, MDA will conduct grazing management training for field staff Re-engage the Horse Outreach Workgroup to provide technical assistance to equine operations Collaborate with conservation partners in securing additional funding to support pasture/grazing operations management. 	292 Total Acres under Horse Pasture Management 3,232 Total Acres under Prescribed Grazing
	Practice	Increase Conservation Practice Adoption on Leased Land	MDA	Work with conservation partners regarding outreach/education to non-operating landowners Explore options to incentivize conservation participation with non-operation landowners Work with conservation partners to evaluate/combine existing stewardship recognition programs (Certainty, FSCAP, CSP etc)	# of Landowners reached

		Increased Technical Assistance	MDA, MDDNR	1) MDA has worked with the Governor's office to propose a reallocation of funding from the Chesapeake and Atlantic Coastal Bays Trust Fund to support up to 53 State positions within Maryland that will provide direct technical assistance to farmers and boost the State's BMP verification program to support the WIP	# of Positions Created
V	Wastewater	Continue to upgrade non-significant wastewater treatment plants (WWTPs)	MDE	Modify the permits for proposed facilities (1 per year) to allow for upgrade to ENR Modify the BRF ranking tool to allow for smaller facilities to qualify for State grants	2 non-significant WWTPs will be upgraded.
		Maintain significant facilities at 3.25 mg/L or lower for Nitrogen	MDE	1) Evaluate the effectiveness of State wastewater incentives programs (Bay Restoration Fund Operations and Maintenance Grant, Clean Water Commerce Act, Water Quality Trading Program) and other regulations toward meeting the average statewide operational goal of 3.25 mg/L. If necessary, consider modifications to programs.	3.25 mg/L based on 2021 Progress
		Finish ENR upgrades to Significant Facilities	MDE	Work with remaining facilities to ensure their contracts and construction are proceeding on time	Inventory of upgraded plants, and schedule of upgrades
	Natural Filters	Oyster Reef Restoration	DNR	1) Complete restoration in Little Choptank River (2020) 2) Complete an initial planting in the Tred Avon River (2021) 3) Complete the final planting in Harris Creek (2020) 4) Complete the final restoration blueprints and begin restoration activities for St. Mary's and Manokin restorations 5) Continue monitoring and sampling to ensure successful metrics as defined by the Chesapeake Bay Agreement	177.2 Acres of restored oyster reefs Completed Blueprints for St. Mary's and Manokin restoration sites

	Forest Market Strategy	DNR	 Promote local forest product markets, which include value-added products and woody biomass used for local generation of thermal energy and electricity. Fund silviculture needed for forest health and to attract private investment that preserves existing forest and expands forests. 	Completed Maryland Economic Adjustment Strategy that supports sustainable forestry
	Incentivise Forest Conservation in Developed Sector	MDE	Include forest conservation measures within the updated Accounting Guidance for the fifth generation Phase I MS4 permits	Increased implementation of these practices documented in the annual reports
Stormwa	ter Finalize the 5th generation Phase I MS4 permits	MDE	1) Issue final determinations for the fifth-generation Phase I MS4 permits for five large and five medium jurisdictions 2) Issue tentative determination for the State Highway Administration's Phase I MS4 permit 3) Issue accounting guidance for the fifth-generation permit 4) Additional 2% impervious acre retrofit requirement per permit year from the date when the permit is issued	Large permits issued and enforced Issue Accounting Guidance Medium permits issued and enforced
	Atmospheric Deposition	MDE	Investigate opportunities to receive model credit for NOx emissions reductions strategies identified in Maryland's Phase III WIP	Initiate process for crediting non-VW-settlement NOx reductions within bay accounting framework

Other 2020/2021 WIP Milestones

		Milestone	Agency	Steps to Achieve MS Goals	Deliverable
The milestones identified in this section show existing BMP or programmatic implementation programs that continue to support WIP implementation.	Agriculture	Traditional Cover Crop Implementation	MDA	 Continue to work with the agricultural community to ensure strong participation in the Maryland Cover Crop Program. Continue to evaluate and refine program policies in consideration of environmental and economic factors. Develop a Soil Health Program that will also help promote the benefits of cover crops in row crop production. 	470,000 acres of traditional cover crop
		Soil Conservation and Water Quality Planning	MDA	Continue to work with USDA-NRCS and local Soil Conservation Districts in SCWQP development Work with the Conservation Partnership to identify and address Technical Assistance gaps.	1,000,000 acres managed under a Conservation Plan
		Tillage Management	MDA	1) Through the Soil Health Program, highlight the co-benefits provided by long-term utilization of tillage management practices.	Work towards 248,000 acres of conservation tillage annually 643,000 acres of high residue tillage annually
		Animal Waste Management Systems	MDA	Continue to work with USDA-NRCS and local Soil Conservation Districts to identify and address resource concerns in the area of animal waste management. Continued funding of storage facilities through MACS and EQIP.	Poultry - 100% AU Dairy - 90% AU Livestock - 50% AU

		Grass & Riparian Buffers	MDA	Incentivize implementation of grass buffers through enrollment in the Conservation Reserve Enhancement Program. Collaborate with Conservation Partners to identify implementation opportunities in conjunction with other practices.	Additional 605 acres a year
		Nutrient Management Core Nitrogen	MDA	1) Continue to work with the agricultural community to ensure fertilizers, manure, and other nutrient sources are applied in an effective and environmentally sound manner. 2) Continue to provide education and training regarding proper nutrient application in adherence with a nutrient management plan and all current regulations.	70% compliance rate
	Natural Filters	Expand existing tree planting programs	DNR, MDE	1) Work in 5 counties to increase the number of contracts on residential properties in the Lawn to Woodland program. 2) Providing economic incentives through the "Marylanders Plant Trees" program which encourages citizens to plant individual trees on residential properties. 3) Incentivize tree planting and forest buffers through updated Accounting Guidance for fifth-generation MS4 permits 4) Continuing with the Healthy Forests, Healthy Waters initiative, prioritize riparian buffer plantings through decision criteria scoring	Maintain contract numbers in Lawn to Woodland program Maintain number of vouchers provided in Marylanders Plant Trees program 300 acres planted via Healthy Forests, Healthy Waters
		Maryland Stream ReLeaf	DNR	Establish partnerships to identify focus areas and complementary programs that expand forest buffers Identify riparian forest buffer priority projects in the Lower Susquehanna watershed (Cecil and Harford Counties)	2 meetings per year to coordinate the partnership Develop riparian forest buffer restoration and

			conservation strategies for the program
	Incorporate Conservation Plus	For the first time, land conservation activities will count toward our Bay goals. This is due to the fact that the Chesapeake Bay Program (CBP) now considers land conservation a best management practice (BMP) similar to cover crops, septic system upgrades, wetlands restoration, and oyster aquaculture. Maryland is recognized as a leader in land conservation and, in order to take advantage of this new opportunity, will: 1) sustain funding for state land conservation and preservation programs to support the expected 2019-2025 forecast. Maryland will continue to support the Maryland Agricultural Land Preservation Foundation, Rural Legacy Program, and Program Open Space State-side. 2) Work with state agencies and local governments to apply state and local land conservation programs as appropriate to reduce the modelled impacts to the bay of future growth, maximize bay health restoration opportunities, and mitigate the impacts of climate change to our natural and built infrastructures.	Sustained levels of state funding for Program Open Space, Rural Legacy, and Maryland Agricultural Land Preservation Foundation. Refined targeting of Maryland's land conservation programs to address impacts from modelled future growth and climate change
On-Site Disposal Systems	Septic Upgrades to M BAT	 Continue to use the Bay Restoration Fund to upgrade septic systems to Best Available Technology (BAT) within the Critical Area 	rund 1800 BAT upgrades in the critical area
o o o o o o o o o o o o o o o o o o o	Regulations M Amendment	Amend regulations to include loading rate decreases when Best Available Technology (BAT) or Membrane Bioreactor (MBR) technology is utilized for systems that discharge <5,000 gallons per day.	Regulation Amendment
	Bermed Infiltration M Pond Removal	Identify priority systems Remove discharge permit and connect to Wastewater facilities	Work on 8 large facilities as priority
		There are 8 large facilities and approximately 40 small facilities	

Stormwater Sto	tormwater Goals	1) Before the fifth generation permit can be issued, permittees are required to perform a "Maximum Extent Practicable" (MEP) analysis of their programs to determine the BMP implementation level that they could reasonably achieve with available and future funding levels.	MEP analyses for Phase I MS4 permittees
•	nplementation of SW oals	 In the fifth generation Phase 1 MS4 permits, establish a requirement that milestones for implementation will be included in the jurisdictions' annual reports. The State of Maryland requires Financial Assurance Plans (FAPs) from its Phase I permittees, the plans detail funding and implementation in place to meet permit goals. The plans are compiled and reviewed on an "as-needed" basis. 	Collection of milestones from Annual Reports FAP Review for a jurisdictions in 26
Urban Nutrient Management		Continue to support and expand the management of nutrient applications on urban land	285,000 acres managed under urban NM - Commercial Applicator
			466,000 acres managed under urban NM - DIY Applicator
	dustrial Stormwater ompliance	Continue to work with industrial sites to bring unpermitted sites into compliance Focus on areas with requests for residual designation	Report on numbe sites brought into compliance

Phase II MS4 Permit Compliance	MDE	 The second generation Phase II MS4 permit was issued on October 31, 2018. MDE continues to provide extensive outreach and assistance with Phase II permittees so they understand permit conditions and obligations. Currently there are a total of 89 municipal, State, and federal permittees throughout Maryland which are submitting annual reports which MDE will review. In year one, MDE will assist with development of their permit baselines that will be used to drive implementation for the next permit iteration. Years 2 through 5 will be used to develop their BMP implementation plans to meet the third generation permit conditions. 	# of annual reports completed and reviewed by MDE Preliminary BMP Implementation goals
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2020/2021 Milestones for WIP Support

		Milestone	Agency	Steps to Achieve MS Goals	Deliverable
These milestones are related to programs that provide monetary, programmatic, or technical support to the State's WIP efforts.	Funding	Submit Annual Chesapeake Bay Funding (i.e., JCR) reports to MD Legislature	All MD Agencies	Finish internal agency review of funding programs for sufficiency and proper targeting, while also looking to achieve important co-benefits like climate mitigation and adaptation. Identify any gaps in funding needed to achieve 2025 Bay Restoration goals.	Submit reports to MD's Legislature by Dec. 1 of each year.
		Bay Restoration and Clean Water State Revolving Loan Funds	MDE	Continue to market the Bay Restoration Fund (BRF) and Clean Water State Revolving Fund (WQRLF) for stormwater management projects and MS4 implementation Revise the Integrated Project Priority System (IPPS) for the BRF and WQRLF to improve the potential for high-benefit septic projects, stormwater management projects and MS4 implementation	Report number of projects funded through these grants Document the new ranking priority metrics
	Atla	Chesapeake and Atlantic Coastal Bays Trust Fund	DNR	 Cost-Effective Non-point Source Pollution Reduction projects: Maintain full funding levels Simplify the application process through a single point-of-entry grants gateway Explore opportunities for increased funding through private capital Prioritize projects that foster healthy ecosystems, communities, and resilient economies Natural Filters Program projects: a) Maintain existing funding levels to implement natural filter BMPs on state and public lands. Natural filters practices improve both water quality and habitat by protecting, enhancing and restoring riparian buffers, wetlands, streams and living shorelines. 	Report number of projects funded, and associated pounds of nutrients and sediment reduced through these grants

	Local Watershed Implementation Plan Funding	DNR	Continue to update or improve the process and ranking criteria to identify and provide funding to those local communities with the most cost effective projects for Bay restoration as needed Promote program through outreach to local communities and local jurisdictions	Provide at least \$1 million annually to support local watershed implementation planning
Modeling & Research	Urban Development Growth and Land Preservation Accounting	MDP	1) Update Chesapeake Bay Modeling tools with the State's own projections of growth in the urban sector 2) Provide technical support to ensure land use data and Chesapeake Bay land Change model forecasts are accurate 3) Explore the use of the MD Dept. of Planning's Growth Simulation Model as an alternative for CBP modeling tools to account for 2025 projected growth 4) Continue to update and maintain Maryland's land preservation datasets to inform CBP modeling tools.	Provide Growth numbers and other documentation to CBPO
	Additional Geographic Targeting Tools	All agencies	Monitor the development and explore the application of BMP targeting tools to improve the cost effective implementation of Bay restoration resources in Maryland	Presentation to Maryland Bay Cabinet from Maryland Bay Workgroup
	Ecological Effects of Sea Level Rise	DNR	Coordinate with higher education and other partners to : a) Enhance models that quantify wave attenuation and the flood reduction benefits of nature-based features b) Use this information to inform conservation and restoration priorities for Maryland coastlines	Quantify the protective services of marsh, seagrass, and living shorelines under current and future sea level conditions

Incorporating Air Emission Reduction Strategies	MDE	1) Help quantify the water quality benefits of practices performed with VW settlement funds 2) Work to convene an expert panel to help quantify additional water quality impacts of future air emissions reductions strategies 3) Revise Quality Assurance Project Plans (QAPPs) to account for air emissions reduction BMPs	Provide Information to EPA on VW settlement BMPs Create accounting system to track air emission BMPs
Chesapeake & Atlantic Coastal Bays Trust Fund Projects	DNR	1) Strategic & Targeted Monitoring: a) Continue to monitor projects implemented through the Trust Fund for efficacy of implementation b) Continue to conduct long-term monitoring of BMPs to assess performance and alignment with state investment goals 2)Innovative Technology Fund: a) Develop new non-point source BMPs for nitrogen, phosphorus, and sediment reduction b) Expand partnerships with other programs that develop emerging technologies c) Ensure new practices are reviewed by the Chesapeake Bay Partnership, or other appropriate avenues	Monitor Trust Fund BMPs to ensure they provide the stated benefit Annually fund two research and development projects Invest in one commercial project
Beneficial Use of Dredge Material	DNR	1) Use the new BUILD tool to synchronize the beneficial use of dredged material in restoration projects that reduce flooding, stabilize shorelines and mitigate storm impacts 2) Incorporate research from the Thin-Layer Sediment Placement NERRs Grant to exam the effectiveness of using thin-layer placement of dredged sediment on tidal marshes as part of a marsh adaptation strategy 3) Incorporate the Marsh Equilibrium Model (MEM) to evaluate suitability for the use of Thin-Layer Sediment Placement 4) Use the results of this process to promote waterway improvement and coastal resiliency in a cost effective manner	Promote the utilization of dredge material for beneficial uses (BU) and implement projects in targeted sites

Technical Assistance	Watershed Assistance Collaborative	DNR, MDE	1) Watershed Assistance Collaborative (WAC): a) Continue to provide dedicated staff and funding to support the program; b) Expand the program's ability to serve additional communities and improve outreach	Fund and manage two Watershed Specialists' outreach; collaborate with three additional Specialists
	Technical Support through Restoration Specialists	DNR	1) Continue to provide technical assistance to local governments, watershed organizations, private landowners and others interested in addressing water quality and natural resource management issues with the latest science and techniques. 2) Advance restoration science, outcomes, and cost-efficiency within the Watershed Assistance Grant the Trust Fund local solicitation and the Natural Filters Program	Provide continued hands-on landscape level technical assistance to local governments and non-governmental organizations implementing restoration projects
	BMP Calculator	DNR	1) Operate and maintain a publically available online application to estimate nutrient and sediment reductions from site level projects. 2) Integrate updates associated with Chesapeake Assessment Scenario Tool. 3) Add new BMPs as they are approved	Operate and maintain FieldDoc.com
	Septic Connections	MDE	Provide technical and policy assistance to local governments to facilitate connections of septic tanks to WWTPs	Report number of septics connected
	Stormwater Meetings	MDE	MDE will meet with stormwater permittees on a quarterly basis to discuss: a) WIP Expectations b) Emerging Pollutants c) Local Impairments	Quarterly meetings at MDE with Stormwater permittees

Developing Partnerships Memorandum of Understanding	DNR/ MDOT	1) Implement a partnership to maximize public benefit and efficient use of funding to support common objectives, including (but not limited to), Chesapeake Bay watershed implementation plan, environmental compliance, stewardship and sustainability activities.	Develop a Memorandum of Understanding between DNR and MDOT that would cover all of MDOT's transportation business units.
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2020/2021 Climate Mitigation and Resiliency Milestones

	Milestone	Agency	Steps to Achieve MS Goals	Deliverable
Milestones Identified in this section are driven by their ability to assist Maryland with increasing its resiliency to changes in Climate.	Integrating Climate into Phase III WIP Implementation	MDE	Determine how storm precipitation events are estimated to change in the future and affect BMP pollutant removal effectiveness. Beginning in September 2021, Maryland's 2022-2023 two-year milestones will reflect these changes.	Account for additional climate-induced loads and improved understanding of BMPs
	Coast Smart Construction Criteria	DNR	1) Implement the 2019 Coast Smart Construction legislation that applies design and siting criteria to certain state and local capital projects. 2) Protect and maintain ecological features that buffer projects from the impacts of future sea level rise, coastal flooding, or storm surge	Update siting and design criteria that maximizes resiliency benefits for the construction or reconstruction of certain state and local capital projects.
	Climate Mitigation and Adaptation Synergies	DNR	Work with higher education institutions and stakeholders to develop indicators of climate mitigation and resiliency progress. Use developed and existing indicators to communicate combined progress on both climate mitigation / resiliency and bay health.	Develop and publish a suite of indicators to communicate and measure progress on climate adaptation across Maryland including those relevant to Maryland's Bay Health goals.

	Chesapeake Bay Sentinel Site Cooperative	DNR	The Chesapeake Bay Sentinel Site Cooperative (CBSSC) is a group of ecosystem-based study sites across the Chesapeake Bay that: 1) work together to measure the impacts of sea level rise in the Bay; 2) Work with partners to apply scientific findings produced at sentinel sites to help communities prepare for coastal flooding and other effects of changing climate conditions; 3) Work in partnership with coastal managers, decision makers, and community liaisons. Building off the discussion at the 2019 Marsh Resilience Summit, the CBSSC is seeking to advance the priorities identified at the summit including trend analysis of marsh elevation.	Use information to inform Maryland's implementation strategies that combat the nutrient and sediment impacts of climate change.
	Local Engagement and Education: Maryland Climate Leadership Academy	DNR	The Maryland Climate Leadership Academy will advance the capacity of state and local government agencies, infrastructure organizations and businesses to develop and implement sound climate change initiatives thus ensuring current and future public health, security and economic prosperity. The Academy will continue to support the work of the Maryland Climate Change Commission and State of Maryland in their efforts to address climate change and meet goals related to the mitigation of and adaptation to the effects of climate change in Maryland.	Host three additional cohorts of the Certified Climate Change Professional (CCP) training program. Develop and implement sector specific training for local elected leaders, planners and others as identified.
	Water Reuse	MDE	Begin implementing one or more water reuse pilot projects with local jurisdictions to address water supply shortages while exploring and accounting for reduced nutrient discharges to the Chesapeake Bay	One or more pilot studies under development.
	Hazard Mitigation Watershed Planning	MDE	Begin the process of integrating hazard mitigation planning into local TMDL watershed implementation plans Work with local officials to find ways to use BMPs to lower Flood Insurance rates for our citizens	Two local watershed plans with hazard mitigation incorporated

	Water Quality and Climate Change Resiliency Portfolio	DNR/MD E	Work with existing stakeholders in the climate space (i.e, Maryland's Climate Change Commission and Adaptation and Resiliency Work Group) to identify a pipeline of projects that prepares Maryland and its communities to build climate resilience by taking advantage of existing and emerging funding opportunities that promote the use of natural infrastructure. Explore creation of targeting tools to identify priority project areas or communities for resiliency action.	A list of priority projects and/or targeting framework for resiliency focus.
	Living Shorelines	MDE/ DNR	 Identify actions which improve the timeliness and consistency of state and federal regulatory decision making for living shoreline permits. Evaluate social marketing behavior change study results for potential use in MDE's permitting program. Complete enhanced shoreline suitability analyses of four counties for using LS practices. Improve data capture and analysis methods to advance the LS goal and its evaluation. Develop a rapid assessment tool to evaluate installed LS projects. Identify ways to promote climate resilience in proposed shoreline stability designs submitted for MDE approval. Conduct an LS Summit with stakeholders. 	Living Shorelines (LS): Increase the percentage of shoreline stabilization projects that use LS practices and develop ways to evaluate and improve techniques in the face of climate change.
	Resiliency through Restoration Initiative	DNR	1) Demonstrate how nature-based features can enhance community resilience to climate change impacts: a) Target projects which reduce climate change risk to our citizens b) Design and implement up to 15 nature-based community resiliency projects C) Provide funding, training and technical assistance that will assist practitioners. D) Monitor projects to evaluate success	Complete 15 nature-based community resilience projects

Additional 2020/2021 Milestones for Maryland

	Milestone	Agency	Steps to Achieve MS Goals	Deliverable
Stormwater	PCBs mitigation for construction activities	MDE	 Issue the construction Stormwater permit in first half of 2020, and next version of industrial SW late 2020 or early 2021 Include Industrial BMP Guidance for PCB and other toxic pollutants. 	Target removal of PCB as part of Construction and Industrial SW permits.
the Phase III WIP efforts, but include other tangible co-benefits.	Pesticides	MDE	Issue 17-PE permit renewal mid-2020 Audit larger pesticide applicator Pesticide Management Plans, once the renewal is issued	Report on the number of audits
Protection	GAP Analysis	MDE	Complete 1st step of GAP analysis through literature review and basic research to identify existing guidance documentation and processes that can support high quality/high value streams	Summary report on the status of high quality/high value streams protection guidance
				compendium
	Maryland Healthy Watersheds Assessment	MDE	Complete the Maryland Healthy Watersheds Assessment using a \$55,000 grant awarded to the Maintaining Healthy Watershed Goal Implementation Team by the Chesapeake Bay Trust. The project seeks to create a relative state watershed health baseline, on the segment-catchment scale, based on metrics known to influence watershed health, as well as identify vulnerability indicators.	Integrate MDHWQ into MD IMAP Geodatabase Final Report SOPs/Protocol
		Pesticides Protection GAP Analysis Maryland Healthy Watersheds	Stormwater PCBs mitigation for construction activities Pesticides MDE Protection GAP Analysis MDE Maryland Healthy Watersheds	PCBs mitigation for construction activities MDE 1) Issue the construction Stormwater permit in first half of 2020, and next version of industrial SW late 2020 or early 2021 2) Include Industrial BMP Guidance for PCB and other toxic pollutants. Pesticides MDE 1) Issue 17-PE permit renewal mid-2020 2) Audit larger pesticide applicator Pesticide Management Plans, once the renewal is issued MDE Complete 1st step of GAP analysis through literature review and basic research to identify existing guidance documentation and processes that can support high quality/high value streams MATURE Complete the Maryland Healthy Watersheds Assessment using a \$55,000 grant awarded to the Maintaining Healthy Watershed Goal Implementation Team by the Chesapeake Bay Trust. The project seeks to create a relative state watershed health baseline, on the segment-catchment scale, based on metrics known to influence

				Documentation
	eview	MDE	Pilot integration of the Antidegradation Tier II Environmental Review with the Department of Natural Resource's Power Plant Review Program.	Custom forms, templates, and other review documentation for th PPRP review process
				SOPs for special condition development and implementation guidance
	ater Quality Trading ogram Enhancement	MDE	the process easier to understand 2) Provide new guidance documents that help participants better	6 Guidance Documents
			understand the process for generating and transferring credits 3) Work to increase the quantity of credit buyers in the program through encouragement of participation by non-traditional partners	New Web App for mapping
				Completion and use of the online nutrient credit Registry tool
Har	rster Aquaculture ervest Verification ogram	DNR	 Finalize and publish the forms Aquaculture growers need to participate in the program Finalize and publish guidance on the process for harvest verification Register first trade of nutrient credits derived from Oyster Aquaculture Register first trade of nutrient credits derived from Agriculture 	Implement an oyster harvest verification process to allow participation in the WQ Trading Program